

CHAPTER 2

MINE WARFARE-RELATED PROGRAMS

LEARNING OBJECTIVES

Upon completing this chapter, you should be able to do the following:

1. Describe the Quality Assurance Program as it relates to Mineman responsibilities and tasks.
2. Describe the Navy Occupational Safety and Health Program.
3. Describe the Hazardous Material Safety Program.
4. Describe the Navy Explosives Safety Program.
5. Describe the Non-Nuclear Ordnance and Explosives-Handling Qualification and Certification Program.

There are several programs that support the daily operations of a Mobile Mine Assembly Group (MOMAG). This chapter discusses the Quality Assurance Program, the Navy Occupational Safety and Health Program, the Hazardous Material Safety Program, the Navy Explosives Safety Program, and the Non-Nuclear Ordnance and Explosives-Handling Qualification and Certification Program.

As a Mineman, you should be able to fully participate in these programs as they relate to your duties, as well as training your subordinates in these vital areas. For additional information on mine warfare-related programs, consult the recommended reading list at the end of this chapter.

QUALITY ASSURANCE PROGRAM

It is the policy and goal of the Naval Sea Systems Command (NAVSEASYS COM) to provide the fleet with safe ordnance material of the highest possible quality in a timely manner. The policies and procedures of the Quality Assurance Program for naval ordnance are set forth in *Naval Ordnance Quality Assurance Procedures for Fleet Activities*, NAVSEA QAP 100/NAVAIR QAP 100. These policies are reflected in the basic priorities of safety first, quality second, and quantity third. The QA Program implements this policy during both (1) the

material acquisition from contractors; and (2) the receipt, production, maintenance, storage, and issue of ordnance material.

Established in *Quality Assurance Procedures*, COMOMAGINST 4855.1, the mine warfare's QA Program ensures quality, uniformity, and reliability in the total mine production effort. All aspects of ordnance materials are subject to inspection by both supervisors and QA inspectors. Inspections help to reduce human errors and help to ensure that all material used is of the proper type, quantity, and quality. QA inspections do not relieve supervisors of their responsibilities, but they do enhance the reliability of weapons and weapons systems.

QA requirements help to ensure the following procedures:

1. Incoming material is inspected to ensure that it
 - a. conforms to the designated type, quantity, and quality;
 - b. has not been damaged in shipment;
 - c. is identified with the appropriate condition code status; and
 - d. is packed, packaged, and preserved as necessary to permit further processing in a safe manner and to prevent material

damage or deterioration during storage, handling, and issue.

2. Ordnance material is segregated into compatible groups by explosive content and condition code for storage, further processing, or transshipment.

3. Ordnance material is controlled during handling and storage to prevent unsafe conditions or degradation of serviceable material.

4. Periodic maintenance is performed as required. Maintenance and renovation operations are controlled to assure that ordnance material completing these operations conforms to all applicable specification requirements.

5. Only safe, serviceable ordnance material is issued to operational units.

6. Ordnance material destined for outload is packed, packaged, and preserved as specified in applicable technical documents. After loading, it is securely blocked, braced, and dunnaged in the carrier to facilitate safe transport.

This section discusses the QA department, and planning, personnel training requirements, safety support, inventories and inspections, material condition tags and labels, inspection indication stamps, reject material, and discrepancy reports as they relate to QA.

QUALITY ASSURANCE DEPARTMENT

Each MOMAG activity must plan, staff, and maintain a QA department proportionate with command workload. Since this department is responsible for performing all QA functions on the command's ordnance, it must have the independence necessary to achieve full implementation of QA policies and procedures. Although the commanding officer of a MOMAG activity (or the officer-in-charge of a MOMAG detachment) has the final responsibility for the quality of the mines at that activity, the QA department head is his representative and reports directly to him.

QUALITY ASSURANCE PLANNING

Efficient QA planning provides a systematic approach for

1. determining QA objectives and requirements for ordnance material;

2. identifying specific QA actions necessary to ensure that the objectives and requirements are met; and

3. providing resources necessary to perform required QA actions in a timely, effective, and efficient manner.

Quality planning functions shall include the

1. identification of applicable technical documents and requirements;

2. determination of QA actions and the assignment of responsibilities for their performance;

3. review of weapons ordnance work instructions for adequacy; and

4. establishment of specific inspection points and the preparation of inspections, if not provided in the technical documentation.

QA and ordnance work planning must be done concurrently. In addition to ensuring that adequate work instructions are available and are used, it ensures that all necessary preparations for performing QA verification actions are completed in a timely manner. Close liaison and cooperation between personnel performing QA planning and personnel performing ordnance work planning are essential.

Quality planning functions consist of the planning required to provide QA verification personnel with the necessary tools required to ensure the quality of the work being verified. These tools consist of the following four points:

1. The point at which the inspection should be performed.

2. The drawing, equipment, and procedural instructions needed to perform the inspection.

3. The amount and severity of the inspections (i.e., 100 percent or sampling).

4. The method for recording or reporting the inspection results as specified by applicable ordnance technical documentation.

PERSONNEL QUALITY ASSURANCE TRAINING REQUIREMENTS

All personnel whose work assignments may affect the quality of ordnance material must have the knowledge and skills necessary to perform safe and quality work. To achieve this, personnel assigned to ordnance-related work must be given general

indoctrination, as well as specific training, in the ordnance work to be performed. The indoctrination must include a segment on QA. This segment should stress the following objectives:

1. Motivation of all personnel to attain high-quality performance in ordnance work.
2. Development of an appreciation for the importance of, and the need for, an organized and effective QA program.
3. Familiarization of personnel with the ordnance QA procedures.

Personnel assigned duties as QA inspectors must be provided detailed training in the application of QA procedures and safety, quality, and technical requirements of the specific ordnance materials involved in their work assignments. This training is in addition to the activity training for weapons and ordnance personnel; it may be either on-the-job (OJT) or classroom training.

To provide increased range and depth to the capability of QA personnel, each QA supervisor shall provide OJT through rotational work assignments. The periods of OJT shall be of sufficient duration to ensure that the trainee is fully qualified to perform duties in that area of assignment. Records of all OJT and classroom training should be prepared and maintained on all QA personnel.

QUALITY ASSURANCE SAFETY SUPPORT

QA inspectors should be familiar with all safety procedures and requirements of the job because they serve as safety observers at all times. They provide written reports of all safety violations or potentially hazardous conditions to the (1) shop supervisor, (2) command safety supervisor, and (3) QA department head. While in the working areas, QA inspectors should wear green hardhats or green ballcaps for easy visual identification.

Since QA supports the command's safety program, all QA personnel should receive basic safety instruction and OJT safety instruction specifically tailored to their areas of work. Before each evolution and during the quarterly safety standdown, QA inspectors will brief all command personnel on safety.

Supervisors and QA personnel must be constantly alert to the need for refresher training or other specific ordnance-related training, as evidenced by the quality of work performed. Supervisors are responsible for ensuring that necessary OJT or classroom training is

provided before assigning personnel to new jobs related to the processing of ordnance material.

QUALITY ASSURANCE INVENTORIES AND INSPECTIONS

Procedures for QA inventories and inspections are in pertinent technical publications and must be followed in the verification of the quality of mines and associated materials. Commitment to these procedures is essential to readiness. The following paragraphs discuss inventories; receipt inspections; preshipment inspections; and assembly, disassembly, and maintenance inspections.

Inventories

Physical inventories are required for efficient inventory control. To fulfill this requirement, the stock balance and the location of an item must be in agreement with the stock record card for that item. Inventories will accomplish this requirement, as well as the following actions:

1. Determining and reconciling differences between physical count and stock record card balances.
2. Determining stock deficiencies that require corrective action.
3. Ensuring that material is correctly identified.
4. Ensuring that material is properly stored and packaged.

The primary inventory is the monthly 1/12th inventory, which allows a 100-percent inventory of on-hand stock each year. During this inventory process, the inspector verifies and tabulates the following data: (1) actual count and location (including all lots), (2) packaging and stenciling, (3) material condition tags and labels, (4) discrepant storage conditions, and (5) cure date data of preformed packings. In addition, an inventory is made of any item that is issued or received.

Receipt Inspections

All incoming shipments of mine material must be inspected by QA personnel and personnel from the activity's supply division. Receipt inspections must be conducted in accordance with NAVSEA QAP 100/NAVAIR QAP 100 and COMOMAGINST 4855.1.

QA personnel need only to sample or monitor inspections performed by supply personnel. Sealed containers need not be opened unless (1) the condition of the container indicates possible damage or deterioration of the contents, or (2) technical documents dictate otherwise.

Receipt of field or fleet return materials is normally limited to a visual inspection for proper packaging and ensuring that no hazardous conditions exist. All material inspections must be tagged with an appropriate material condition tag or label.

Preshipment Inspections

Before any mine material leaves an activity, it must be subjected to a preshipment inspection by QA personnel to ensure that the

1. preservation, packing, packaging, palletizing, and marking of the material is in compliance with applicable specifications;
2. material is properly tagged or labeled to indicate identity, count, and condition; and

3. shipping documentation is complete and corresponds with the material being shipped.

Assembly, Disassembly, and Maintenance Inspections

QA personnel, with work center supervisors, are responsible for ensuring the quality of material undergoing tests, rework, assembly, disassembly, or maintenance. Many ordnance publications provide suitable travelers or processing documents (checklists, data sheets, etc.), while others may have to be developed locally. Travelers or processing documents must highlight each major operation to be performed, either by a brief description of the operation or by reference to paragraphs in the work instruction portion of the technical document. Some work instructions that are not excessively bulky may also be used as shop travelers. After the required maintenance or tests are completed, an appropriate condition tag or label, authenticated by QA personnel, must be affixed to each item, container, or unit.

UNSERVICEABLE (CONDEMNED) TAG-MATERIEL

FSN, PART NO. AND ITEM DESCRIPTION

INSPECTION ACTIVITY

REASON OR AUTHORITY

CONDITION CODE

UNSERVICEABLE (REPAIRABLE) TAG-MATERIEL

FSN, PART NO. AND ITEM DESCRIPTION

INSPECTION ACTIVITY

REASON FOR REPAIRABLE CONDITION

CONDITION CODE

TEST/MODIFICATION TAG-MATERIEL

FSN, PART NO. AND ITEM DESCRIPTION

INSPECTION ACTIVITY

CONDITION CODE

SUSPENDED TAG-MATERIEL

FSN, PART NO. AND ITEM DESCRIPTION

INSPECTION ACTIVITY

CONDITION CODE

SERVICEABLE TAG-MATERIEL

FSN, PART NO. AND ITEM DESCRIPTION

INSPECTION ACTIVITY

CONDITION CODE

NEXT INSPECTION DUE DATE

INSPECTOR'S NAME OR STAMP AND DATE

QUANTITY

REMARKS

Figure 2-1.—Material condition tags.

MATERIAL CONDITION TAGS AND LABELS

Material condition tags, shown in figure 2-1, are used to indicate the inspection and condition status of ordnance material, except for that material in process that has accompanying material condition status documentation. Material condition tags and labels must be affixed to the material so that they permit easy identification of the material's condition. When it is impractical to tag each item (i.e., nuts, bolts, resistors, etc.), then the container, rack, bin, or drawer should be tagged or labeled.

Material condition tags and labels are filled out by the person affixing the tag or label to the material.

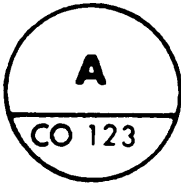




Periodically, QA personnel monitor that process. However, all tags and labels on material identified as serviceable are authenticated by a QA inspector, who applies a QA inspection stamp or a signature to the tags and labels. When the condition status of material changes, the material condition tags or labels are changed to show the new status. The older tags and labels are removed, the serviceable tags and labels are submitted to the QA department, and all other tags and labels are destroyed by the person removing them.

The five material condition tags and labels are identified and used as described in table 2-1.

Table 2-1.—Material Condition Tags and Labels

TAG/LABEL	COLOR	USE
SERVICEABLE	Yellow border on the front. Tags also have a yellow stripe across the back.	Affix to material that is serviceable and ready for field or fleet issue.
SUSPENDED	Brown border on the front. Tags also have a brown stripe across the back.	Affix to material that is pending condition classification by an authorized group, activity, agency, or document. Do not issue for any purpose except emergency combat use.
TEST/MODIFICATION	Blue border on the front. Tags also have a blue stripe across the back.	Affix to material that will become serviceable upon completion of acceptable tests or modifications. Do not issue for any purpose other than for conducting the required tests and for applying the necessary modifications.
UNSERVICEABLE (REPARABLE)	Green border on the front. Tags also have a green stripe across the back.	Affix to material that is unserviceable because it is incomplete or it requires limited restoration. Do not issue for any purpose except to conduct the required restoration or to complete the assembly of material to the proper configuration.
UNSERVICEABLE (CONDEMNED)	Red border on the front. Tags also have a red stripe across the back.	Affix to material that does not meet certain specifications and cannot be repaired, restored, or otherwise rendered economically serviceable. Do NOT issue for use. Release ONLY for scrapping or for return to the continental United States.

Table 2-2.-Inspection Stamp

STAMP	EXPLANATION
	<p><u>Interim Acceptance Stamp</u></p> <p>This stamp indicates acceptance of all inspections and processes at a given point or time; however, the material must undergo further processing or inspection. Material so stamped is released only for further processing or inspection. It is NOT issued for use.</p>
	<p><u>Final Acceptance Stamp</u></p> <p>This stamp indicates that the material has met all the specified requirements. Material so stamped is ready for issue.</p>
	<p><u>In-Process to a Deviation Stamp</u></p> <p>This stamp indicates that the material has met all the specified requirements; however, at least one of the original requirements has been modified by an authorized deviation. Material so stamped is acceptable for use, but is not released for use unless the final acceptance stamp has been applied to the material or the documentation.</p>
	<p><u>In-Process to a Waiver Stamp</u></p> <p>This stamp indicates that the material meets most of the requirements, and that those requirements that were not satisfied were waived by an authorized board or agency. Material so stamped is acceptable for issue, but is not released for use unless the final acceptance stamp has been applied to the material or the documentation.</p>
	<p><u>Rejection Stamp</u></p> <p>This stamp indicates that the material does not meet the specified requirements. Material so stamped can NOT be issued for use.</p>

INSPECTION INDICATION STAMPS

Inspection indication stamps are used to indicate QA authentication of the material condition status as either being accepted or rejected. In addition, these stamps identify the activity and the individual using the stamp.

The activity and user identification is provided by the use of an alphanumerical designation system incorporated into the stamp. A letter code designates the activity, followed by a number that identifies the person to whom the stamp is assigned. The size of the letters and digits are small enough to allow space for at least three additional digits after the activity and user codes.

Examples of the inspection stamps and a brief explanation of each are in table 2-2.

The QA supervisor issues the inspection stamps only to qualified personnel. Each inspector receives a set of stamps, with each stamp in the set having the same number.

A stamp assignment record is maintained by the QA supervisor to ensure accountability. This assignment record consists of having the person to whom the stamps are assigned apply each stamp issued to one of the blocks on the stamp record form; that person will then initial and date each stamped block.

Surveys, following the same procedures used for assignment, should be conducted every 6 months. The survey will be for all stamps assigned. A sample stamp assignment record is shown in figure 2-2.

A current record of all stamps procured by number, indicating the number of stamps in each set, the type of stamps in the set, the status of the stamps (issued, unissued, damaged, lost, etc.), and the date of verification of the status will be maintained.

When a stamp is lost, the entire set of stamps is destroyed. All stamps turned in by QA personnel for any reason are held in bond, in a locked container, at least 6 months before reissue. The stamp assignment record will indicate which of the stamps are being held in bond. Stamps held in bond are verified against the new listing every 6 months.

REJECT MATERIAL

When QA personnel discover nonconforming material, they are to immediately identify the material as nonconforming by filling in and attaching a SUSPENDED material condition tag or label. The material is to be separated and controlled to prevent unserviceable material from being mixed with serviceable material. Normally, the material is placed in an impound area, which has boundaries physically identified by walls, rails, ropes, chains, or conspicuous markings. QA personnel must authorize the removal of material from designated impound areas.

INSPECTION STAMP RECORD					Stamp Set Number:	No. Of Stamps In Set:
Issued to:		Payroll/ID No:		Dept:	No. of Stamps Issued:	No. of Stamps In Bond:
Reason For Issue:		Issued By:		Signature of Person Receiving Stamps:		
ISSUE/DATE	VERIFY	VERIFY	VERIFY	VERIFY	VERIFY	VERIFY

Figure 2-2.—Inspection stamp record.

DISCREPANCY RECORDS

Discrepancies found in ordnance material that require corrective action are to be made on a discrepancy record, unless correction of the defect can be accomplished immediately by the operating personnel. Discrepancy records should also be generated for unauthorized or inadequate documentation. One example of a discrepancy record is shown in figure 2-3; other examples are in NAVSEA QAP 100/NAVAIR QAP 100.

NAVY OCCUPATIONAL SAFETY AND HEALTH PROGRAM

The Navy Occupational Safety and Health (NAVOSH) Program embraces the total safety and occupational health effort within the naval establishment. The overall program is divided into primary program areas and specified support areas to help administer the total NAVOSH effort. The *Navy Safety and Occupational Safety and Health Program*, OPNAVINST 5100.8, outlines the purpose of this program. The *Navy Occupational Safety and Health (NAVOSH) Program Manual*, OPNAVINST 5100.23, gives the details required to carry out the specifics of the program.

The NAVOSH Program covers all safety areas. The major area you will be concerned with under this section is occupational safety and health, as it discusses NAVOSH program responsibilities and personal safety protective equipment. As the title implies, the NAVOSH Program specifically addresses the maintenance of safe and healthful conditions in the workplace or the *occupational* environment.

NAVOSH PROGRAM RESPONSIBILITIES

By direction of OPNAVINST 5100.8, echelon-2 commanders are responsible for ensuring that their commanders, commanding officers, officers-in-charge, and their subordinate supervisors conduct an aggressive safety and mishap prevention program. This instruction also directs them to assign safety responsibilities to qualified personnel as a primary duty billet, where possible. If this cannot be done due to manning levels, it is to be assigned as a collateral duty. As a supervisor, you are responsible for following these directives and for ensuring that each individual under your supervision complies with safety and occupational health standards.

Programs in the primary areas are the responsibility of specific program sponsors. These sponsors maintain the technical expertise necessary to establish policy direction, organization, and procedures for their programs in each of the following major Navy elements: (1) submarine and diving, (2) surface, (3) shore, and (4) aviation.

As a Mineman, it is your responsibility to understand, comply with, and assist your command in all aspects of safety.

PERSONAL SAFETY PROTECTIVE EQUIPMENT

As the supervisor, you are responsible for ensuring that all personnel have, use, and maintain personal safety protective equipment. This equipment is designed to prevent or reduce the severity of injury or illness.

It must be recognized that personal protective devices do nothing to reduce or eliminate the hazard itself. They merely establish a "last line of defense" to the hazard. Therefore, if the equipment is not used or maintained properly, it is of no value. For this reason, mandatory enforcement of equipment use is the key element in an effective personal protective equipment program.

The following six items must be taken into consideration for the issue of personal safety protective equipment:

1. Eye and face protection: Approved eye and face protection must be worn when there is a reasonable probability that an injury could be prevented by wearing such equipment. Injury can be caused by flying particles and chips; splashes from liquids (such as acids, caustics, and solvents); or operations that generate hot slag or molten metal, welding glare, etc. Personnel in the vicinity of such operations (including other workers, supervisors, or visitors) are required to wear eye protective equipment. It is the responsibility of the activity to provide the required approved protective equipment and to enforce its use.

2. Respiratory protection: Respiratory hazards may occur through exposure to harmful dust, fogs, fumes, mists, gases, smoke, sprays, and vapors. The best way to protect personnel is by using accepted engineering control measures, such as local exhaust ventilation. However, the use of engineering control measures may not always be technologically or

economically feasible, due to the nature and location of the activities. In these situations, the use of appropriate respiratory protection should be used to assure personnel protection.

3. Head protection: Helmets and hardhats must be worn when there is a possibility of impact from falling objects and at all times when operating materials-handling equipment (MHE).

DISCREPANCY RECORD			1. CONTROL NO.		2. ORIGINATOR		3. DATE					
4. WORK AREA/COST CENTER			5. NOMENCLATURE				6. PART IDENTIFICATION					
7. CONT/PROJ NO.		8. LOT/QUANTITY		9. DWG/SPEC/QATIP NO.		10. SOURCE		11. LOCATION OF MATERIAL				
12. CLASSIFICATION OF DEFECT <input type="checkbox"/> CRITICAL <input type="checkbox"/> MAJOR <input type="checkbox"/> MINOR <input type="checkbox"/> UNKNOWN												
13. CAUSE OF DISCREPANCY <input type="checkbox"/> MATERIAL <input type="checkbox"/> PROCESS <input type="checkbox"/> EQUIPMENT <input type="checkbox"/> PERSONNEL <input type="checkbox"/> DOCUMENTATION												
14. DESCRIPTION OF THE DISCREPANCY												
15. DISPOSITION/ACTION TAKEN												
16. ACTION TAKEN VERIFIED												
SIGNATURE			CODE		DATE		QA SIGNATURE		CODE		DATE	

Figure 2-3.—Discrepancy record.

4. Foot protection: Foot protection must be worn when personnel are engaged in activities that involve danger from heavy falling objects. This can involve almost any job in a mine shop.

5. Electrical protection: Appropriate rubber protective equipment must be provided for personnel working on energized circuits.

6. Hearing protection: Hearing protective devices must be worn by all personnel when they enter or work in an area where the operations generate noise levels greater than 84-dB(A) sound levels or 140-dB peak-sound pressure levels or greater. The determination of which hearing protective device or combination of devices, suitable for use in each situation, is the responsibility of the industrial hygienist (or other competent personnel under the direction of an industrial hygienist).

All personal protective equipment must be of a safe design and construction for the work to be performed. Standards and specifications for the design and use of this equipment have been developed as a result of extensive research and testing. Only those items that have been recognized and approved shall be used.

This is not an all-inclusive list. It is your responsibility to ensure that your personnel have the proper protective equipment and that all instructions in the use of the equipment are followed. All the safety devices, equipments, and instructions will be of no use if they are not used as intended.

HAZARDOUS MATERIAL SAFETY PROGRAM

The Hazardous Material Safety Program is a Navywide program designed to ensure the safe usage of hazardous materials. *Hazardous Material Control and Management (HMC&M)*, OPNAVINST 4110.2, establishes the policies, guidance, requirements, and management of hazardous material used by the Navy.

Materials ordinarily considered to be safe maybe rendered hazardous under certain conditions by the uninformed user. Therefore, it is imperative that accident prevention actions designed to control and regulate the identification, transportation, storage, and use of hazardous materials be implemented to protect both the user and the general public.

Except as noted, hazardous material is any material that by virtue of its potentially dangerous nature requires controls to ensure adequate protection

of life, health, and property. For the purpose of this program only, this definition excludes ammunition, explosives, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, and bulk fuels.

OPNAVINST 4110.2 gives guidelines for the reporting, management, and record keeping of hazardous materials. It also requires that activities ensure that all personnel coming into contact with hazardous materials be (1) indoctrinated and trained in the proper handling procedures of hazard materials, and (2) provided with and required to use personal protective equipment. It also contains information on host-tenant command relationships with regard to hazardous materials.

This section discusses material safety data sheets and hazardous-materials warning labels.

MATERIAL SAFETY DATA SHEETS

To comply with the *Hazard Communication Standard*, 29 CFR 1910.1200, a Material Safety Data Sheet (MSDS) (OSHA Form 174) must be used by manufacturers of chemical products to communicate to users the chemical, physical, and hazardous properties of their product. (An equivalent form may be used if it contains the identical data elements.)

The completed form identifies key information on the product, such as the name, address, and emergency contact for the manufacturer; the identify of the hazardous ingredients; the physical and chemical characteristics; the fire and explosion hazard data; the reactivity data; the health hazard data; the precautions for safe handling and use; and the control measures. The use of the MSDS, or a narrative summary of the MSDS information, should be included as a part of hazardous-material training programs.

HAZARDOUS-MATERIALS WARNING LABELS

Hazardous-materials warning labels are necessary to clearly show the hazardous nature of the contents of the packages at all stages of storage, handling, use, and disposal. When unit packages are removed from shipping containers, the continuity of the information must be maintained.

If you must relabel a hazardous-material container, use the labeling system for DOD hazardous-chemical warnings. As of September

1990, you can print labels directly from you HMIS CD-ROM computer disk on plain paper and put them on unlabeled containers. The label should identify the hazardous chemical contained and should provide the appropriate warnings.

The labeling of hazardous materials is governed by 29 CFR 1910.1200. The Department of Defense (DOD) adopted the regulations in *DOD Hazardous Materials Information System Procedures*, DODINST 6050.5. All hazardous materials procured by DOD must meet OSHA labeling requirements, and DOD activities are not required to relabel hazardous-material containers.

NAVY EXPLOSIVES SAFETY PROGRAM

The Navy Explosives Safety Program is established in *U.S. Navy Explosives Safety Policies, Requirements, and Procedures (Department of the Navy Explosives Safety Policy Manual)*, OPNAVINST 8023.2. Explosives safety is the all-encompassing area of activity concerned with the prevention of the premature, unintentional, or unauthorized initiation of explosives and devices containing explosives. It also includes the

1. minimization of the effects of explosions, combustion, toxicity, and any other harmful effects;
2. mechanical, chemical, biological, and electrical hazards associated with explosives; hazards of electromagnetic radiation to explosive ordnance; and combinations of the foregoing; and
3. equipment or systems whose malfunctions would hazard the safe handling, maintenance, storage, release, delivery, or firing of explosives.

This section discusses safety program responsibilities, mishap causes, and mishap reports as related to explosives.

EXPLOSIVES SAFETY PROGRAM RESPONSIBILITIES

Explosives safety, like all safety, is the responsibility of all commands and all personnel. However, the Commander, Naval Sea Systems Command and the Mobile Mine Assembly Group activities are assigned certain responsibilities for the overall program.

Commander, Naval Sea Systems Command

Under the supervision of the Deputy Chief of Naval Operations for Logistics (DCNO/L), the Commander, Naval Sea Systems Command (COMNAVSEASYS COM) is tasked with the following responsibilities regarding explosives safety:

1. Establishing and issuing technical standards and criteria.
2. Providing technical guidance and assistance to all components of the Department of the Navy (DON).
3. Providing technical advice and evaluations to the Chief of Naval Operations (CNO) in areas where operational requirements conflict with technical requirements.
4. Directing and coordinating the efforts of all technical offices and preparing all necessary data to analyze the program's effectiveness.
5. Providing the necessary technical advice and guidance for the development of explosives training programs to establish a level of competence to ensure success of this program.
6. Establishing, issuing, and implementing appropriate regulations, technical standards, instructions, and publications that relate to supervision over specific work performed by shore activities. This work includes the preparation, assembly, loading, testing, storing, handling, shipping, use, and maintenance of ammunition, explosives, and other dangerous materials.

Mobile Mine Assembly Group Activities

All Mobile Mine Assembly Groups (MOMAGs) having custody of explosive materials must

1. comply with all applicable directives and guidance issued by proper authority,
2. ensure that explosive materials are handled only by qualified personnel, and
3. submit reports concerning explosive accidents and incidents.

EXPLOSIVE MISHAP CAUSES

The improper handling, loading, processing, or testing of explosive devices has, in the past, caused

mishaps that resulted in injury, loss of life, or damage to property, as well as reduced operational effectiveness of both fleet and shore activities. Investigations have shown that a major cause of mishaps with explosive devices has been personnel error.

Analyses of mishaps clearly caused by personnel error show that the following seven reasons are most commonly encountered:

1. Lack of effective use of available training or lack of knowledge on the part of individuals and teams that handle explosive devices.

2. Lack of necessary and effective leadership and supervision by the supervisory personnel directly responsible for operations involving explosive devices.

3. High-tempo operations, during which maintenance of explosives safety tends to be degraded due to (a) fatigue; (b) short cuts to get the job done on time; or (c) complacency stemming from rapid, repeated, and often monotonous tasks.

4. Loss of continuity caused by the discharge, transfer, promotion, or retirement of experienced personnel.

5. Assignment to duty of personnel whose precise qualifications and experience are generally unknown.

6. Temporary assignment to perform ordnance-related tasks for which personnel are not specifically qualified.

7. Failure to follow, or to maintain current, standard operating procedures (SOPs) or standard job procedures (SJPs) that have been established for specific processes involving explosives or explosive devices.

EXPLOSIVE MISHAP REPORTS

There is a high potential for catastrophe inherent to mishaps involving explosives. The requirements for reporting explosive mishaps, therefore, are more stringent than for any other type of mishap.

An explosive mishap is defined as an explosive incident or a dangerous defect involving an explosive system or a launch device which results in detonation, deflagration, burning, inadvertent jettisoning, or release of ordnance material resulting in damage or injury.

Mishap Investigation and Reporting, OPNAVINST 5102.1, establishes the requirements for reporting all mishaps involving non-nuclear explosive ordnance or explosive materials, chemical agents, and systems. It also defines procedures to be followed subsequent to these mishaps. In addition, *Underwater Mine Maintenance System*, NAVSEA SW550-FO-PMS-010, requires that a mine system class-B data report (supplement B sheet) be prepared when explosive items are damaged in storage or during handling.

NON-NUCLEAR ORDNANCE AND EXPLOSIVES-HANDLING QUALIFICATION AND CERTIFICATION PROGRAM

In recognition of the need for reducing personnel-induced explosive mishaps, the Non-Nuclear Ordnance and Explosives-Handling Qualification and Certification Program was established. An integral part of the Navy Explosives Safety Program, this program requires that all personnel directly involved with ammunition or explosives be certified by the command or the organizational unit to which they are assigned as having satisfactorily demonstrated their qualifications to safely perform all functions, tasks, and evolutions involving explosive devices. In addition, this program requires that personnel be properly trained and qualified before they are certified to perform any task involving explosive devices, individually or as members of a team.

Program procedures and personnel qualification requirements are in *Ammunition and Explosives Ashore*, NAVOP 5; *U.S. Navy Explosives Safety Policies, Requirements, and Procedures (Department of the Navy Explosives Safety Policy Manual)*, OPNAVINST 8023.2; and *Non-Nuclear Ordnance and Explosives-Handling Qualification and Certification Program*, NAVSEAINST 8020.9.

The basic qualifications under this program define the following four personnel requirements:

1. Be physically and mentally qualified and certified.

2. Receive a general indoctrination in the hazards of explosive materials and devices; general safety, fire, security, and health regulations; and emergency or hazardous conditions and reporting procedures.

3. Demonstrate competent knowledge and application of each evolution (such as assembly, disassembly, testing, etc.) with the specific explosive devices for which they are being qualified.

4. Be specifically qualified as individuals, team members, or team leaders (supervisors).

This section discusses certification for handling explosives and qualification and certification records.

CERTIFICATION FOR HANDLING EXPLOSIVES

Upon being qualified and recommended for certification, each individual shall be issued final certification by the commanding officer or the officer-in-charge or by the command's certification board.

Certification Boards

A certification board shall be appointed by the commanding officer or officer-in-charge of each unit or naval activity involved with explosives or explosive devices. This board shall include, as a minimum,

- the cognizant department head (or the comparable supervisory representative in those organizations without defined departments); and
- not less than one individual (E-6 or above) who is certified to perform the function, task, or evolution under consideration.

Certification Duration

Certification, unless revoked for cause, shall be valid for a maximum of 12 months. A renewal of the certification, whether issued at the time of expiration or later, shall be granted only after the individual or team qualification has been validated by the certification board. Whenever possible, complete requalification should be accomplished before renewal of certification. In addition, individuals must be physically and mentally qualified and certified yearly before certification is renewed.

Certification Revocation

Commanding officers or officers-in-charge are responsible for the revocation of individual or team certification whenever such action is deemed to be in the best interests of safety. However, revocation of certification for individuals or teams, including team leaders, is mandatory when an explosive mishap is caused by failure to follow authorized procedures. Flagrant disregard of safety precautions, reckless operation of equipment used to handle explosive devices, or other behavior indicating incompetence or unreliability is also cause for mandatory revocation of certification.

Personnel whose certification has been revoked shall be retrained until requalified and recertified, if the commanding officer considers such action appropriate. However, if the demonstrated behavior of an individual indicates that such retraining may be ineffective, that individual shall be assigned to other tasks not involving explosive devices.

Revocation of certification of military personnel for cause shall require an entry in the appropriate portion of the individual's service record stating the specific reason for revocation. See MILPERSMAN 5030420.3 concerning derogatory entries.

Certification Transfer

When military personnel are transferred to another activity, the acceptance of certification related to an explosive device will be at the discretion of the commanding officer or officer-in-charge of the new activity.

QUALIFICATION AND CERTIFICATION RECORDS

Each activity must maintain records indicating the personnel who have been qualified and certified to handle ammunition or explosive materials. These records will also include the levels, standards, and explosive families of such qualifications and certifications. *Explosive Material-Handling Qualification and Certification Program*, COMOMAGINST 8020.4, illustrates the appropriate form that should be used to record the qualifications and certifications of an individual. The original of this form is to be maintained by the command in the individual's training record.

RECOMMENDED READING LIST

Note: Although the following references were current when this TRAMAN was published, their continued currency cannot be assured. Therefore, you need to be sure that you are studying the latest revision.

DOD Hazardous Materials Information Procedures, DODINST 6050.5, Department of Defense, Washington, D.C., 1990.

Explosive Material-Handling Qualification and Certification Program, COMOMAGINST 8020.4K, Mobile Mine Assembly Group, Charleston, S.C., 1992.

Hazardous Material Control and Management (HMC&M), OPNAVINST 4110.2, Chief of Naval Operations, Washington, D.C., 1989.

Mishap Investigation and Reporting, OPNAVINST 5102.1C, Chief of Naval Operations, Washington, D.C., 1989.

Naval Ordnance Quality Assurance Procedures for Fleet Activities, NAVSEA QAP 100/NAVAIR

QAP 100, Naval Sea Systems Command, Washington, D.C., 1976.

Navy Occupational Safety and Health (NAVOSH) Program Manual, OPNAVINST 5100.23C, Chief of Naval Operations, Washington, D.C., 1992.

Navy Safety and Occupational Safety and Health Program, OPNAVINST 5100.8G, Chief of Naval Operations, Washington, D.C., 1986.

Non-Nuclear Ordnance and Explosives-Handling Qualification and Certification Program, NAVSEAINST 8020.9A, Naval Sea Systems Command, Washington, D.C., 1985.

U.S. Navy Explosives Safety Policies, Requirements, and Procedures (Department of the Navy Explosives Safety Policy Manual), OPNAVINST 8023.2C, Chief of Naval Operations, Washington, D.C., 1986.

Underwater Mine Maintenance System, NAVSEA SW550-FO-PMS-010, Naval Sea Systems Command, Washington, D.C., 1983.